



# National Weather Service

## Storm Data and Unusual Weather Phenomena



November 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Number of Persons Injured	Estimated Damage Property	Estimated Damage Crops	Character of Storm
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### MICHIGAN, East

MIZ047>049-053>055-  
060>063-068>070-  
075>076-082>083

Midland - Bay - Huron - Saginaw - Tuscola - Sanilac - Shiawassee - Genesee - Lapeer - St. Clair - Livingston - Oakland -  
Macomb - Washtenaw - Wayne - Lenawee - Monroe

10	1200EST	0	0	1.1M	High Wind (G61)
11	0500EST				

A very intense storm system moved north across the western Great Lakes on the 10th. This storm occurred on the 23rd anniversary of the sinking of the Edmund Fitzgerald in Lake Superior, and was actually very comparable to that storm, both in regards to storm intensity and storm track. The big story with both systems were the extremely strong winds that occurred. Thankfully, this storm - as opposed to the Fitzgerald storm - was forecast days in advance, and the huge majority of marine traffic on the Great Lakes sought safe harbor before wind speeds became excessive.

High winds occurred in two phases. Winds reached high wind criteria across southeast Michigan early in the afternoon of the 10th, associated with a cold front racing east across the state. A line of showers accompanied the front, locally enhancing wind speeds (see below). The strong winds slackened some during the afternoon. Wind speeds increased again in the evening, as an area of strong descent well behind the cold front allowed strong winds aloft to penetrate to ground level. The highest winds during the entire event occurred within a couple of hours of midnight. Winds diminished to below high wind criteria by dawn on the 11th.

Both periods of high winds caused significant damage across the area. In the afternoon, the walls of a church under construction were destroyed in Troy. A warehouse in Flint was deroofed, and a second warehouse roof was damaged. Large tree limbs were downed in Saginaw. Wind speeds approaching 50 mph were measured at the Coast Guard Station in Port Huron.

Damage was more widespread with the higher wind speeds that occurred at night. Trees, limbs, and power lines were downed across all of southeast Michigan. The falling trees and limbs caused damage to some homes and vehicles. In Livingston County, an indirect fatality occurred, as the driver of a car was killed when he crashed into a tree that had fallen across a road. In Owosso, a roof under construction collapsed, and a church under construction in Ida (Monroe County) was also damaged. An automated weather observing station in Adrian was disabled. Near Mt Clemens, a boat rack storing a number of boats collapsed, causing hundreds of thousands of dollars in damage. A 70 mph wind gust was measured at the National Weather Service office in White Lake at about 1020 pm.

The extended period of strong winds caused an interesting phenomena on Saginaw Bay. Southwest gales occurred over the waters of Saginaw Bay for 12 to 18 hours, acting to push water out of the bay and into the main body of Lake Huron. Water levels in Saginaw Bay dropped dramatically as a result. Previous to the storm, the water level was running about 18 inches above chart datum. Any level lower than about 4 inches above chart datum begins to interfere with navigation on Saginaw Bay. At about 5 am on the 11th, the water level on Saginaw Bay bottomed out at an amazing 50 inches below chart datum - over 5 feet below the recent average! Although detailed historical records were not available for this writing, the Coast Guard in Essexville (Bay County) reported that this was the lowest water level in recent memory. Most of Saginaw Bay is quite shallow, and the removal of over 5 feet of water exposed a huge portion of the bay bed; some estimate that up to half of the area of the bay briefly became dry land during the storm! To illustrate this point, a pair of duck hunters were stranded on an island off of Sebawaing (Huron County), as the water level dropped too far for them to be able to boat back to the mainland. However, as the water level dropped further during the night, one of the hunters was able to walk ashore, as the intervening three miles of Saginaw Bay suddenly became dry land. As the wind slackened and swung to the west toward dawn, the water level began to rise toward a more normal level.



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<b><u>MICHIGAN, East</u></b>									
Lenawee County 1 W Morenci	10	1253EST			0	0	5K		Thunderstorm Wind (G52)
Shiawassee County Perry	10	1255EST			0	0	8K		Thunderstorm Wind (G52)
Shiawassee County Owosso	10	1305EST			0	0	5K		Thunderstorm Wind (G52)
Lenawee County Adrian to Tecumseh	10	1310EST 1320EST			0	0	8K		Thunderstorm Wind (G52)
Livingston County Howell	10	1311EST			0	0	5K		Thunderstorm Wind (G52)
Lenawee County Onsted	10	1312EST			0	0	8K		Thunderstorm Wind (G52)
Washtenaw County Saline to Ann Arbor Arpt	10	1318EST			0	0	15K		Thunderstorm Wind (G55)
Monroe County Dundee	10	1335EST			0	0	15K		Thunderstorm Wind (G55)
Oakland County Highland to White Lake	10	1345EST 1400EST			0	0	3K		Thunderstorm Wind (G50)
Lapeer County Metamora to Dryden	10	1350EST 1355EST			0	0	8K		Thunderstorm Wind (G52)
Oakland County Rochester Hills	10	1410EST			0	0	2K		Thunderstorm Wind (G50)

In the middle of the period of high winds, and just ahead of the cold front, a thin line of rain showers raced across southeast Michigan. Very little lightning or thunder was reported with this line. However, the line did act to give a brief increase to local wind speeds.

All of the above reports involved trees and lines being downed. Damage was most widespread in Saline and Dundee. In addition, a sheriff in Dundee reported a 60 mph gust, while 58 mph gusts were measured at both Ann Arbor Municipal Airport and the National Weather Service office in White Lake Township.